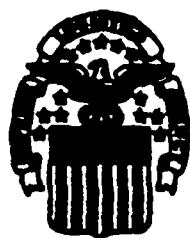


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# QUALITY AT A GLANCE



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THIS DOCUMENT CONTAINS SUMMARIES OF FIFTEEN OF THE WELL KNOWN BOOKS WHICH UNDERLIE THE TOTAL QUALITY MANAGEMENT PHILOSOPHY. MEMBERS OF THE DCASR ST LOUIS STAFF OFFER COMMENTS AND OPINIONS ON HOW THE AUTHORS HAVE PRESENTED THE QUALITY CONCEPT IN TODAY'S BUSINESS ENVIRONMENT.

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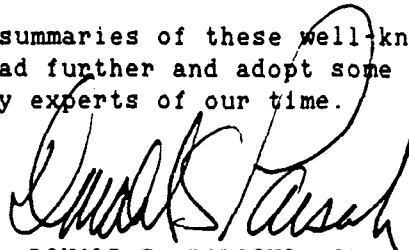
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# ACKNOWLEDGMENTS

The collection of quality readings in this booklet was compiled in a cooperative effort by members of my Total Quality Management Executive Steering Committee. Each abstract represents the individual comments and opinions of my Staff on how the authors have presented the quality concept in today's business environment.

It is my hope that by reviewing the summaries of these well-known books on Quality it will inspire you to read further and adopt some of the ideas prepared by the leading quality experts of our time.



DONALD S. PARSONS, JR.  
Captain, SC, USN  
Commander

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## QUALITY AT A GLANCE

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TITLE: Quality Without Tears

AUTHOR: Philip B. Crosby

FIRST PUBLISHED DATE: 1985

LATEST REPRINT: N/A

20 WORD REVIEW:

The general theme is that quality must be ingrained through the attitudes and mentality of any business entity.

OVERALL SYNOPSIS:

There are several characteristics that troubled business entities have in common:

- a. Their product or service usually deviates greatly from their original objectives and specifications.

- b. They establish and resource a complete network to deal with dissatisfaction, rework and other corrective action in an attempt to keep customers satisfied.

- c. Management does not set clear and concise performance standards, so subordinates create their own thereby multiplying the degree of deviation.

- d. Management won't admit that they are the problem with quality.

- e. Management does not capture the true cause of deviations and nonconformances.

- Crosby states that all nonconformances are caused and anything that is caused can be prevented.

- There are three parts to a Total Quality Management plan; Determination, Education, and Implementation. A common shortcoming is that a business entity will attempt to implement prior to thorough determination and education.

- Regarding personnel management, employees are demotivated by the thoughtless and uncaring way that they are dealt with by Management if they are merely pawns in the day-to-day operation. They want to be part of the problem solving.

RATING:

Excellent TQM material - useful for managers in understanding the TQM philosophy.

TITLE: The Reckoning

AUTHOR: David Halberstam

FIRST PUBLISHED DATE: 1986

LATEST REPRINT: 1987

20 WORD REVIEW:

An excellent, highly readable account of the differing fortunes of Ford Motor Company and Nissan Corporation, with emphasis after World War II.

OVERALL SYNOPSIS:

Using the case study method, the author traces the parallel development and changes in fortune of both the Ford Motor Company and the Nissan Corporation. He has researched extensively and portrays the forces, both internal and external, that caused each company to make the decisions made and the consequences. The book shows very clearly the difference in operating methodology between the companies. In particular, the top-down approach to management of the U.S. Company as compared to the opposite in Japan.

As relevant factors that determine a company's mode of operations, the author describes the differing labor relations in the two countries. He further describes the respective Government's relation to private industry as well as their relation with major lending institutions.

Overall, the book shows clearly how an inward-looking company cannot react to market forces in a reasonable time, and how their delay impacts both productivity and progress.

RATING:

Excellent TQM material - useful for managers in understanding the TQM philosophy.

TITLE: Commit to Quality

AUTHOR: Patrick L. Townsend

FIRST PUBLISHED DATE: 1986

LATEST REPRINT: N/A

20 WORD REVIEW:

The author reviews the implementation process of a 'Quality has Value' program within the Paul Revere Insurance Companies. The book provides an excellent blueprint for quality improvement programs within service organizations and has very good application to Government agencies.

OVERALL SYNOPSIS:

The book is extremely readable, easy to understand and follow, and not so esoteric or technical that one would need a Ph.D. to grasp it. The author walks the reader through the process of the Quality has Value program from the initial decisions to implement a program through two years of actual operation under the program. Integrated within the book are clear examples and anecdotes of all the successes, failures, problems and challenges the company faced in establishing the program. What is most exciting about the principles described in the book are the adaptability of them to any service profession. Indeed, the book is adaptable to manufacturing organizations as well. One of the basic tenets of the book is that quality is everyone's business. This sets the program apart from a quality circles concept by making it mandatory that everyone be on a quality team. As in most improvement programs, top level commitment was stressed, but at the outset, the Quality has Value concept committed that nobody would be separated from the company as a result of the quality process, a clear signal that top management was committed. A further demonstration of top-level backing was that 30 minutes per week of company time was devoted to the quality teams. With 1200 employees and 127 teams, that equated to over 650 hours per week!! After establishing the commitment required and affirming the need for total employee involvement, the author delineates the groupings that the company used to form teams. He outlines that quality teams are involved primarily in the business of improving how things are done within their work area or department. The usual assumption is that departments are correctly structured. He continues by outlining that value analysis workshops need to be formed that consist of the departments' decision makers and that they will primarily address the question 'are we doing the right thing?' The book then addresses the program's reward system focusing on Maslow's theory of needs and applying it to a simple reward plan. As the program entered the second year, the author notes the changes and modifications that were needed to maintain focus and continue the important chapter on 'listening down.' He adds a chapter on adapting the concept to other types of organizations in Paul Revere's corporate structure.

RATING:

Absolute must for reading - expect managers to read.

TITLE: The Goal

AUTHOR: Eliyahu M. Goldratt and Jeff Cox

FIRST PUBLISHED DATE: 1984

LATEST REPRINT: 1986

#### 20 WORD REVIEW:

The theme of the book, The Goal, is one of education. The education that takes place leads the reader through a deductive thinking process. This process focuses on changing the way we look at processes in manufacturing firms. The Goal is basically a textbook, disguised as a novel, which allows the reader to achieve a better understanding of the concept of ongoing improvement.

#### OVERALL SYNOPSIS:

The Goal tells a story about a declining manufacturing firm called Uni Ware that is given three months to turn the operation around or the parent company will shut down the operation. The story is told through the eyes of the plant manager, Alex Rogo. Alex turns the plant around with the help of a former college professor, turned consultant, named Jonah. Jonah is able to lead Alex and his managers at the plant through a self-improvement process, whereby the management discovers through deductive reasoning how to solve their problems. Paralleling the plant closure story is a story about Alex's personal life and how his wife leaves him because he is engulfed in his work.

The plant is eventually saved, and Alex gets his wife back along with a promotion to corporate level. Some of the business concepts proposed, while very basic, somehow have been lost in today's industrial cost accounting environment. The author proposes that ultimately every action that does not bring a company closer to its goal is not productive. The goal of a manufacturing organization is to make money. A simple way to make money in a manufacturing environment or express the goal in manufacturing terms is to 'increase the throughput while simultaneously reducing both inventory and operating expense.' The author proposes managers should manage according to the goal. Increasing productivity (from a cost accounting standpoint) will not necessarily increase profit, it will only increase efficiencies on paper. These concepts were key to understanding the message presented by the author.

Another interesting concept presented is that of accumulation. Accumulation in a production line environment is based on fluctuations and dependent events. In effect, if separate dependent functions process at different rates, the time it takes to complete an item is an accumulation of all the steps and dependent on the slowest of all the processes. Consequently, the rate of throughput is the speed at which the slowest function operates. No matter how fast other functions are completed, the slowest operation governs the entire process.

In a manufacturing plant, there are basically two types of resources: (a) bottlenecks and (b) non-bottlenecks. Essentially, the bottleneck process determines plant capacity and effective flow of



product is set by the bottleneck. The difficult part comes in balancing your operation flow to the capacity of your bottleneck processes. A point made about non-bottleneck is that saving hours on a non-bottleneck doesn't really save anything and is only a 'mirage' of cost accounting.

In a cost sense, if a bottleneck machine is not operational, what you have in real dollars is not just the output from that machine but the total expense of the entire system (i.e., total operating expense divided by hours of operation of the bottleneck) because that machine is governing the plants throughput. Consequently, there are three principal themes to consider for efficient operation of bottleneck processes.

a. Make sure bottleneck time is not wasted. (Time Worker Controls)

b. Bottlenecks should not process material that is defective. (Quality Inspection Controls)

c. Bottlenecks should not work on parts/product that is not in the current demand. (Production Controls)

A point was made on resources that was interesting. The author explains that you are not utilizing a resource just by giving the resource work. You are only activating that resource. You only utilize a resource when it moves toward the goal. Also a worker's utilization is dependent on constraints within the system, even though we normally provide incentives to workers based on the false assumption that the worker determines his own potential. Consequently, some incentive programs are rewarding or not rewarding based on improper assumptions.

Batch sizes also can have an effect on profits. If you reduce batch sizes, you cut work in process and reduce inventory, thereby moving toward one of the steps in the operational definition of making money (i.e., reducing inventories).

The final concept put forth by the author is that of 'change.' Change is the hardest thing for any organization to accept because it means uncertainty. As managers what we deal with is decided against change and strives for control predictability and certainty in the midst of ever changing variables. Ultimately, the organization that will succeed is the one that can accept, adopt, and deal with continuing change and change for the better through continuous improvement.

#### RATING:

Absolute must for reading - expect managers to read.

TITLE: Japanese Manufacturing Techniques, Nine Hidden Lessons In Simplicity

AUTHOR: Richard J. Schonberger

FIRST PUBLISHED DATE: 1982

LATEST REPRINT: N/A

20 WORD REVIEW:

The author demonstrates that the Japanese formula for success is based on a number of specific, interrelated techniques - stunning in their simplicity - and shows how these techniques can be put to work in American industries today.

OVERALL SYNOPSIS:

The book provides, in handbook format, nine lessons for American manufacturers aimed at simplifying the overly complex purchasing, inventory, assembly line, and quality control processes of U. S. firms. The author states that Japanese manufacturers have rejected our complex management prescriptions - our obsessions with programs, controls, computers, information processing, behavioral interventions and mathematical modeling. He contends that instead of developing complex solutions, the Japanese way is to simplify the problem. The book consists of nine chapters, and Schonberger devotes one full chapter to each of his 'nine lessons in simplicity.' Schonberger's nine hidden lessons in simplicity are outlined below:

LESSON 1: Management technology is a highly transportable commodity.

LESSON 2: Just-in-time production exposes problems otherwise hidden by excess inventories and staff.

LESSON 3: Quality begins with production and requires a company wide 'habit of improvement.'

LESSON 4: Culture is no obstacle; techniques can change behavior.

LESSON 5: Simplify, and goods will flow like water.

LESSON 6: Flexibility opens doors.

LESSON 7: Travel light and make numerous trips like the water beetle.

LESSON 8: More self-improvement, fewer programs, less specialist intervention.

LESSON 9: Simplicity is the natural state.

Schonberger contends that the American system was the standard of excellence in a previous era, and other countries, including Japan, studied it and used it.

Today, however, we must study and implement the system of the Japanese because their production and quality procedures are the best in the world. Schonberger states that the world's countries learn from each other in a never ending cycle, and this is healthy.

**RATING:**

Good quality material - may not have universal applications, may put some people to sleep.

TITLE: In Search Of Excellence

AUTHOR: Thomas J. Peters & Robert H. Waterman, Jr.

FIRST PUBLISHED DATE: 1982

LATEST REPRINT: N/A

20 WORD REVIEW:

In Search of Excellence describes the eight basic principles used by America's most successful companies. Practical examples of how these principles are used dominate the book.

OVERALL SYNOPSIS:

In Search of Excellence describes the eight basic principles that the most successful American companies utilize. Peters and Waterman conducted a survey of successful companies in order to find out what they had in common. Successful companies were selected on the basis of six measures of long-term growth and wealth creation. The companies selected as America's most successful were: Bechtel, Boeing, Caterpillar Tractor, Dana, Delta Airlines, Digital Equipment, Emerson Electric, Fluor, Hewlett-Packard, IBM, Johnson & Johnson, McDonald's, Procter & Gamble, and 3M.

The authors found that the most successful companies were committed to the basics of the industry they were in. The eight basic management principles that the companies had in common were:

1. *A bias for action.* These companies were observed to be noted for the attitude that it is better to try something rather than to study-it-to-death. "Do it, fix it, try it" was the common theme. It was found that small groups working on problems produced results considerably quicker, and more successfully, than large committees.

2. *Close to the customer.* The successful companies learn how to do a better job by talking to their customer. Listening to the customer was a hallmark of all of the successful companies. Some companies required that all managers work in positions that involved interface with the customer.

3. *Autonomy and entrepreneurship.* The companies selected were found to encourage practical risk taking. Mistakes were not only expected but encouraged. An environment that fostered innovation was observed in all of the companies selected.

4. *Productivity through people.* The excellent companies treat people as the root source of quality and productivity gains. They were found to treat people as adults and partners. They also treat them with respect and dignity. The authors noted that the exceptional companies spent considerable time interviewing and selecting new employees, a practice that DCASR St. Louis should adopt.

5. *Hands-on value driven.* The most successful companies were found to insist that managers keep in touch with the firm's essential business. Basic values of the successful firms were found to be expressed in qualitative, rather than quantitative terms. It was also found that it was imperative that people at the very bottom of the organization were aware of the company's value system. A belief in being the best permeated all of the successful companies.

6. *Stick to the knitting.* With a few exceptions, the odds for excellent performance seem to favor those companies that stay reasonably close to the business they know.

7. *Simple form, lean staff.* Of the companies selected, none were formally run with a matrix organization. Corporate staffs were noticeably lean and it was not uncommon to find a corporate staff of fewer than 100 people running multi-billion-dollar companies.

8. *Simultaneous loose-tight properties.* The excellent companies are both centralized and decentralized. For the most part, they have pushed autonomy down to the shop floor or product team. On the other hand, they are fanatic centralist around the few core values they hold dear.

Of the eight principles found, without a doubt, productivity through people was thought to be the most important. Dana's Rene McPherson said, 'Almost everybody agrees, 'people are our most important asset.' Yet almost none really lives it.'

#### RATING:

Excellent TQM material - useful for managers in understanding the TQM philosophy.

TITLE: What is Total Quality Control? The Japanese Way

AUTHOR: Kaoru Ishikawa

FIRST PUBLISHED DATE: 1981

LATEST REPRINT: 1985

20 WORD REVIEW:

Through total quality control with the participation of all employees, including the president, any company can create better products (or services) at a lower cost, increase sales, improve profit, and make the company into a better organization.

OVERALL SYNOPSIS:

Kaoru Ishikawa is a devoted advocate of Dr. W. E. Deming and subscribes to Deming's philosophy in regard to total quality control (TQC). Ishikawa states "TQC simply means that we do what we are supposed to do."

Of particular interest is his philosophy in regard to data. He proposes that when data is presented that is obtained by the use of measuring instruments and chemical analysis, we should consider them suspect. Often data is presented in such a manner as to hide the true condition or is presented in such a manner as to distort the true quality factors necessary to draw conclusions. In addition, he states that "quality control cannot be implemented using international or national standards." Consider them, "but beyond these standards quality control must have the higher goals of meeting the requirements of consumers and creating quality which satisfies them."

He purports that we not rely on inspection but produce no defective products from the beginning. If we control the factors in a particular process which cause defective products, we can save a lot of money that is expended from inspection. Inspectors are not really needed. If a factory has too many of them, their presence will reduce the factory's productivity and raise its cost. All employees have to participate in QC.

Education is an important factor in quality control. He states that "Quality control begins with education and ends with education." QC education is applicable from the President to the assembly line workers. Japan begins educating students in high school on the importance of QC and the analytical methods to be used in measuring quality. In the workplace, supervisors are responsible for educating and nurturing their subordinates.

He is not a proponent of detailed standards and regulations developed by headquarters staff and engineer specialists who are not familiar with the workplace. He feels they make things uncomfortable for the workers and that those who set such standards and regulations enjoy making the workplace uncomfortable. He feels that any newly established standards and regulations that are not revised in 6 months is proof that no one is seriously using them.

As to statistical methods, he argues that there are seven basic methods that can solve 95 percent of all problems. They are:

1. Pareto chart: The principle of vital few, trivial many
2. Cause and effect diagram (This is not precisely a statistical technique) (Fish Bone)
3. Stratification
4. Check sheet
5. Histogram
6. Scatter diagram (Analysis of correlation through the determination of median; in some instances, use of binomial probability paper).
7. Graph and control chart (Shewhart control chart).

As to customer satisfaction, he states that we must satisfy the process receiving the product. Know your customer's expectation as to quality. This means also that we must destroy sectionalism in any process. Again, all employees are responsible for quality control in any given process.

**RATING:**

Excellent TQM material - useful for managers in understanding the TQM philosophy.

TITLE: What is Total Quality Control - The Japanese Way

AUTHOR: Kaoru Ishikawa

FIRST PUBLISHED DATE: 1984

LATEST REPRINT: 1985

20 WORD REVIEW:

Through Total Quality Control with the participation of all employees, including the President, any company can create better products (or services) at a lower cost, increase sales, improve profit, and make the company into a better organization.

OVERALL SYNOPSIS:

Ishikawa, obviously a student of Deming, reiterates much of what we learned from Deming and other pioneers of TQM. He begins with his basic philosophy as to why TQM works so well in Japan but not so well in America. He poses two theories which are not proven out in the thought processes. One is that the study of Kanji, the Chinese characters, makes the Japanese foster a habit of diligent work. His other theory is that the Japanese believe people are basically good and trust is cultivated, whereas Western nations feel that man is evil by nature and can't be trusted. Ishikawa then proceeds to discuss the differences in Quality Control in Japan and Western countries. He criticizes Taylorism and espouses the fact that Quality Control is a thought revolution in management. He then goes into detail as to how QC programs are initiated and administered, the thought revolution for management, do's and don'ts for top and middle management, Quality Circles, and the utilization of statistical methods. He did not appear to draw all this together and reach some final thought; he just seemed to want to end the book there, and he did.

RATING:

Good quality material - may not have universal applications, may put some people to sleep.



TITLE: Kaizen

AUTHOR: Masaaki Imai

FIRST PUBLISHED DATE: 1986

LATEST REPRINT: 1986

20 WORD REVIEW:

An attitude of continuous improvement of every aspect of an organization's performance must be present for that organization to meet it's potential.

OVERALL SYNOPSIS:

While the author, Mr. Imai, does not say that much different than the other good writers on the subject of TQM, he says it in a very logical and convincing manner and provides an abundance of examples and demonstrations of the tools.

The author explains the Japanese success in recent years as a result of Japan's commitment to the concept of continuing improvement (the Japanese word 'Kaizen' is defined as improvement) in personal life, home life, social life, and working life. When applied to the workplace, kaizen means continuing improvement involving everyone - managers and workers alike.

Mr. Imai draws several conclusions about the difference between the typical Japanese and U.S. approach to things. The Japanese are process oriented. We are results oriented. We place high marks on someone who 'just gets it done.' With the U.S. penchant for performance, we motivate everyone toward the 'bottom-line' with very little regard for the lasting impact of how we get there. The Japanese tactic would be to take a bigger picture perspective and be willing to forego immediate results for more meaningful long-term gains. We mistake patience for timidity and planning for hesitancy or inactivity.

Mr. Imai discusses his view of the two major parts of management: maintenance and improvement. The role of top management is improvement. Improvement means performing to ever higher standards or providing increased quality in the eyes of your customer. The author's premise is that a manager must have standards in place and determine if employees are able to meet the standards. If they are able to but are not doing it, it requires introducing discipline (i.e., controls, supervision, etc.) to the system. If employees are unable to meet the standards, management must develop the skills of the employees to the point they can meet standards or revise the standards.

On the responsibility to perform the managerial function of improvement in the process, the author says this is done in two ways: innovation and 'kaizen.' While innovation produces dramatic stair step progression, kaizen or continuous improvement, provides the glue to cement innovations into the structure of a process and ensures the lasting success of an organization.

RATING:

Absolute must for reading - expect managers to read.

TITLE: Kaizen, The Key to Japan's Competitive Success

AUTHOR: Masaaki Imai

FIRST PUBLISHED DATE: 1986

20 WORD REVIEW:

Kaizen is ongoing, continuing, never-ending improvement involving managers at all levels as well as workers. It involves management successfully projecting policy top-down and workers analyzing and recommending change bottom-up.

OVERALL SYNOPSIS:

This book promotes both patience and faith - patience in waiting for very gradual improvements to take effect and the faith that, if management will wait, quality will improve, higher productivity will result and, in the end, the organization will profit, possibly even more than it would have had it utilized the very traditional American/European results oriented approach. The approach cited assumes, correctly I feel, that all people desire to improve themselves and, if given a means of communicating ideas, payoff in the long run will result for the entire organization. While some of the developmental objectives of the theory would seem to fly in the face of organized labor's desires, I don't feel it has to work at cross purposes - if the 'KAIZEN' message is clearly spoken, the way of life will better the lot of all employees as well as to accomplish management's objectives - productivity and long-term profitability.

The bottom line is that the employees will readily accept - management must change, for the most part, traditional thinking steeped in years of tradition.

RATING:

Absolute must for reading - expect managers to read.

TITLE: Quality is Free

AUTHOR: Philip B. Crosby

FIRST PUBLISHED DATE: 1980

20 WORD REVIEW:

Philip Crosby refers to his topic as the 'art of making quality certain.' He hones in on a program he calls Zero Defects. Before Crosby gets to the application of the 14 steps in 'ZD,' he takes you through many of the concepts we have heard in the awareness training from the Quality Institute.

OVERALL SYNOPSIS:

Crosby establishes a framework within five concepts:

1. UNCERTAINTY: There is no comprehension of quality as a management tool.
2. AWAKENING: Maybe quality management may be of some value but not willing to provide resources.
3. ENLIGHTENMENT: Management becomes more supportive and helpful.
4. WISDOM: Understanding absolutes of quality management.
5. CERTAINTY: Quality management is integrated into daily life of company.

Recommended Quality policy is 'Perform exactly like the requirement or cause the requirement to be officially changed to what we and our customer really need.'

Philip Crosby states 'The quality policy of an organization is too important to be left to those responsible for the acceptance of the product. The quality manager, or the inspector, when asked to judge continuously whether the product or service is good enough or not, will bias the product or service according to his or her own background and personal attitudes.'

Additionally, Crosby recognizes the concepts of cultural change as a necessity. He refers to this change as attitude change in the book.

In fact, Crosby feels the customer does not have to understand you or your situation. THE CUSTOMER IS THE CUSTOMER. It is as simple as that. You must produce a product which conforms to the specifications of your customer or you have not achieved quality and you must do it every time or you have not achieved Zero Defects. Acceptable Quality Level (AQL) is not an acceptable quality standard. An AQL really means a commitment before we start the job to produce imperfect material or services.

QUALITY is not 'goodness' nor 'elegance.' It is conformance to requirements. It is management's obligation to ascertain what the customers requirements are in terms of specifications and insure performance does not contain any defects in satisfying those requirements.

RATING:

Excellent TQM material - useful for managers in understanding the TQM philosophy.

TITLE: Quality is Free

AUTHOR: Philip B. Crosby

FIRST PUBLISHED DATE: 1980

LATEST REPRINT: N/A

20 WORD REVIEW:

Program for implementing Zero Defects (ZD) theme of which is to 'Do it right the first time.'

OVERALL SYNOPSIS:

Philip Crosby dwells on a series of procedures and by example of a manufacturing company how a Zero Defects program can be installed and become a way of life.

The means of implementing the ZD is a 14 point program consisting of the following:

Step 1 - Management Commitment - Must go further than a backing - must be involvement and participation

Step 2 - Quality Improvement Team - Similar to a PA

Step 3 - Quality Measurement - What/where are you with current status of quality in your area or overall agency

Step 4 - The Cost of Quality - Cost of not doing it right the first time

Step 5 - Quality Awareness - Raise the personal concern of all personnel

Step 6 - Corrective Action - Provide a systematic of resolving forever the problems identified

Step 7 - Zero Defects Planning - Planning for the formal launching of the program

Step 8 - Supervisor Training - Planning and implementing training

Step 9 - Zero Defects Day - Revealing to all the embarking on a new way of life.

Step 10 - Goal Setting - Getting individuals to set goals

Step 11 - Error Cause Removal - Moving employees produce methods to management for ECR

Step 12 - Recognition - Not monetary

Step 13 - Quality Councils - He believes in utilizing professional quality people

Step 14 - Do it over again - with new staff

The book is a good guide for a ZD program, however, ZD is really only a portion of TQM. Good foundation but need expansion. Doing it right the first time is a good and required procedure, but you must ensure that you have the right procedure - that you are giving the customer what he wants. You may have an excellent product or service but if it is not what the customer needs, you do not have a saleable product. The writer does not touch on this aspect. However, the book provides basic requirements to introduce a quality program.

**RATING:**

Good quality material - may not have universal applications, may put some people to sleep.

TITLE: The Deming Route to Quality and Productivity Road Maps and Road Blocks

AUTHOR: William W. Scherkenbach

FIRST PUBLISHED DATE: 1986

LATEST REPRINT: September 1988

20 WORD REVIEW:

At the request of Dr. W. Edwards Deming, the author, William W. Scherkenbach, presents Dr. Deming's Fourteen Points in the order that makes the most logical sense to him.

OVERALL SYNOPSIS:

As the author presents Dr. Deming's Fourteen Points, some chapters are more developed than others. This is because on some he has nothing more to add. The Fourteen Points were presented in the following 'logical' order:

POINT 1: 'Create constancy of purpose toward improvement of product and service, with the aim to become competitive, stay in business, and provide jobs.'

This point can be summarized by two statements: that of knowing what to do - establishing the constancy of purpose and then doing your best - maintaining constancy of purpose.

POINT 2: 'Adopt the new philosophy. We are in a new economic age, created by Japan. Western management must awaken to the challenge, must learn their responsibilities, and take on leadership for change.'  
'Higher quality costs less not more.'

POINT 3: 'Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place.' 'Improve the process to prevent the occurrence of defects.' Dr. Deming's 'process definition' is examined.

POINT 5: 'Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs.'

This is accomplished through the Deming cycle for continuous process improvement:

1. Recognize the opportunity.
2. Test the theory to achieve the opportunity.
3. Observe the test results.
4. Act on the opportunity or simply plan-do-check-act



POINT 12: 'Remove barriers that rob the hourly worker of his right to pride of workmanship. The responsibility of supervisors must be changed from stressing sheer numbers to quality. Remove barriers that rob people in management and engineering of their right of pride of workmanship. This means, inter alia, abolishment of the annual merit rating and of management by objective.'

Three major inhibitors are discussed:

1. Performance appraised system.
2. Daily Production Reports.
3. Financial Management System.

Management must first learn about variability and then they can begin to change company systems.

POINT 8: 'Drive out fear so that everyone may work effectively for the company.'

This should be acted upon first by management because it affects nine of the other Fourteen Points. 'Without the attitude of mutual respect, no statistically-based management system will work, nor any other.'

POINT 9: 'Break down barriers between department. People in research, design, sales, and production must work as a team to foresee problems of production and in use that may be encountered with the product or service.'

One of the key points here is that of operationally defining the customer's critical characteristics throughout the company's entire organization.

POINT 10: 'Eliminate slogans, exhortations, and targets for the workforce that ask for zero defects and new levels of productivity.'

These are no substitute for training, for knowledge of the process, or for the tools and methods necessary to help manage the process.

POINT 11: 'Eliminate work standards (quotas) on the factory floor. Substitute leadership. Eliminate management by objective. Eliminate management by the numbers, numerical goals. Substitute leadership.'

Management needs to focus both on the process feedback loop and the customer feedback loop.

POINT 7: 'Institute leadership. The aim of leadership should be to help people, machines and gadgets to do a better job. Supervision of management is in need of overhaul, as well as supervision of production workers.'

A change to 'follow me' rather than 'I'm behind you all the way.'

POINT 6: 'Institute training on the job.'

Inhibitors to training are discussed as well as utilizing the process model for enumerative and analytical purposes. Improvement tools are also briefly discussed.

POINT 13: 'Institute a vigorous program of education and self improvement.'

Management will recognize the need for education and retraining when they realize that people are an asset and not an expense. Dr. Deming has observed that management treats people as a commodity.

POINT 4: 'End the practice of awarding business on the basis of price tag. Instead, minimize total cost. Move toward a single supplier for any one item on a long-term relationship of loyalty and trust.'

When a customer wants to buy a number of items over time, he must not make the decision independent of the process information. Dr. Deming's advice for the customer is to require statistical evidence from the supplier's process feedback loop.

POINT 14: 'Put everybody in the organization to work to accomplish the transformation. The transformation is everybody's job.'

The transformation may be accomplished by the cycle of training, removing inhibitors, and consulting. Also, leadership in statistical methodology throughout the organization.

RATING:

Absolute must for reading - expect managers to read.

TITLE: Statistical Quality Control

AUTHOR: Eugene L. Grant/Richard S. Leavenworth

FIRST PUBLISHED DATE: 1946

LATEST REPRINT: 1988

20 WORD REVIEW:

A two part text book. Part 1 is a thorough presentation of process control charts, the philosophy of statistical controls, and why they work. Part 2, dedicated to sampling methods, is not addressed in this review.

OVERALL SYNOPSIS:

The primary thrust of Part 1 is the use of Shewhart control charts to present statistical information in a way that is meaningful to management and supervision for the assessment of the well being of their business. Most of the many examples used throughout the text are based upon manufacturing experience but application to service industries and Government is also presented.

Three basic control charts are discussed. These are described as charts for VARIABLES, FRACTIONAL REJECTION, and NONCONFORMITIES PER UNIT. Charts for variables have the most application to nonmanufacturing business in that they display the AVERAGE and RANGE of the variable along with upper and lower control limits. The data used for these charts can be gathered through 100 percent or statistically sampled observation.

The concept of a 'constant-cause system' is fundamental to the philosophy of control charts. Upon this premise, it is concluded that there is an 'assignable cause' for any process with results outside of the control limits for the variable being measured. Control charts may be applied to any business variable to discover their average value, their range of variation that may occur as a matter of chance, and the presence or absence of an assignable cause of variation. It is also stressed that no one tool is panacea for managerial oversight, and that nothing works 100 percent of the time.

In summary, this text will provide a general understanding of the principles underlying the various types of control charts and sampling tables. It will explain why the methods work, how to interpret their results, and how to decide which technique to use in any particular case.

RATING:

Excellent TQM material - useful for managers in understanding the TQM philosophy.

TITLE: Total Quality Control

AUTHOR: Armand V. Feigenbaum

FIRST PUBLISHED DATE: 1951

LATEST REPRINT: 1983

20 WORD REVIEW:

This book is the 'Country Store' of the TQM world, offering everything from philosophy to precisely how to do it.

OVERALL SYNOPSIS:

Total Quality Control by Armand V. Feigenbaum is an extremely comprehensive book that was well ahead of its time when first published, and compares favorably with the very latest TQM books now being issued. The book is published in six parts, offering everything from an explanation of the meaning of quality, systems approach to quality, management strategies, to how organized participation of employees is obtained. The book is very suitable for classroom instruction or reference library. This book is not 'easy reading' as are some of the more philosophical works, but provides great technical insight/instruction.

RATING:

Excellent TQM material, although very technically oriented. May put someone to sleep, but should be retained for instruction/references.

TITLE: The Improvement Process

AUTHOR: H. James Harrington

FIRST PUBLISHED DATE: 1987

LATEST REPRINT: 1987

20 WORD REVIEW:

The three cogent messages of the author are first, the customer is king, they are why we exist; second, we cannot afford to be stagnant. When we stop improving, we start to slip backward. No matter how good we have been in the past, we cannot be satisfied, we must continue to move forward. Third, the key to making the improvement process work is total management team participation in the improvement process. Management's positive attitudes toward employee participation, decentralization, and education will make it all work. In short, for it to work, we must have absolutely 'superior management.' Although our approach must be flexible, our resolve to implement the process of continuous improvement must be inexorable.

OVERALL SYNOPSIS:

This book is a precis of a 5-year study of the actions taken by over 50 American companies to improve the quality of their products and services. The companies based their improvement process on the teachings of today's foremost authorities on quality. The author delivers a tough, powerful .45 caliber message to American industry that the big 'war' of the 80s is not a military war; it is an industry war. The United States no longer sets the standards for excellence in the world marketplace. In order for American industry to stop this erosion and regain our share of the marketplace, our focus must be on understanding and satisfying our customers.

From this historical backdrop, the author takes you through the entire cycle of implementing process improvements within any organization. Although the central focus is on manufacturing and production process, the principles expressed are ecumenical to any industry or service. The author gives the reader a complete blueprint of tools and techniques of not only how to implement, but how to eliminate roadblocks that keep employees from performing the job correctly every time.

RATING:

Excellent TQM material - useful for managers in understanding the TQM philosophy.

TITLE: Managerial Breakthrough

AUTHOR: Joseph M. Juran

FIRST PUBLISHED DATE: 1964

LATEST REPRINT: N/A

20 WORD REVIEW:

Managers are people who get things done through the efforts of other people. This book provides a fact-filled manual on how managers should go about either controlling an existing process or breaking through to new levels of performance.

OVERALL SYNOPSIS:

The very basic question the author suggests each manager periodically ask himself/herself is: 'What am I really here for?' Mr. Juran suggests that managers exist for two basic functions:

- a. To control a process so that employees perform within an expected set of control limits.
- b. To develop breakthrough techniques so that employees perform to higher performance levels.

He further suggests that good managers must be able to both create change through breakthrough and prevent unwanted change through control. Unfortunately, he points out, most people do not do both well and emphasizes the control aspects of management.

In the book, Juran discusses the purpose of management, the steps to initiate or control change and the significant issues implicit in the creation or prevention of change.

The author also discusses and provides a checklist for the unvarying sequences of events he sees necessary for breakthrough and those for control. He believes it essential for managers to understand these sequences.

RATING:

Absolute must for reading - expect managers to read.

TITLE: Out of the Crisis

AUTHOR: W. Edwards Deming

FIRST PUBLISHED DATE: 1982

LATEST REPRINT: 1989

20 WORD REVIEW:

The book outlines a theory of management to improve quality and productivity. It requires long-term management commitment and constancy of purpose.

OVERALL SYNOPSIS:

Dr. Deming defines his story theory in terms of 14 management principles and seven deadly diseases. The principles form the basis for transformation of an organization to improve quality. The 14 principles can be applied anywhere, large or small organization, service or manufacturing industries. He does not provide a step by step process for implementation but rather provides a general description with examples that the reader must adapt to his/her own organization.

Deming stresses that the transformation must start at top management. If top management is not committed then employees will feel that their efforts are in vain. He also stresses that this is not a short-term program. Deming stated that the consumer is the most important part of the production line; and that quality should be aimed at the needs of the consumer, present and future.

In the triangle of interaction, quality must be measured by the interaction between (1) the product itself; (2) the user and how he uses the product, how he installs it, how he takes care of it, what he was led to expect; and (3) instructions for use, training of customer and training of repairman, service provided for repairs, and availability of parts.

The job of management is not supervision, but leadership. The aim of leadership should be to improve the performance of man and machine, to improve quality, to increase output, and simultaneously to bring pride of workmanship to people. The leader must learn by calculation wherever meaningful figures are at hand, or by judgment otherwise, who if any of his people lie outside the system on one side or the other. The leader also has responsibility to improve the system and to accomplish ever greater and greater consistency of performance within the system through the use of statistical process control.

RATING:

Absolute must for reading - expect managers to read.

TITLE: Out of the Crisis

AUTHOR: W. Edwards Deming

FIRST PUBLISHED DATE: 1982

LATEST REPRINT: 1988

20 WORD REVIEW:

Book provides direction for transformation of management necessary for economic survival of American industry in world markets.

OVERALL SYNOPSIS:

The author states that the basic reason why American industry has lost its competitive position as a provider of quality products and services in world markets is the failure of managers to manage. To rebound from this "crisis," American management must undergo a transformation to adopt the Total Quality Management philosophy which was used successfully by the Japanese to continually improve quality and productivity while concurrently reducing costs. Central to this transformation is the requirement to focus on the processes of production, and to use scientific methods to understand, measure, control and continuously improve these processes. Dr. Deming provides the methodology for achieving a total quality environment in a series of 14 points which must become the principles and tenets of management and leadership in the United States. (A summary of Dr. Deming's 14 points is attached.) He also identifies the "diseases and obstacles" which must be overcome to successfully put his 14 points into practice. The text contains numerous examples and suggestions of how TQM disciplines and techniques may be applied to our manufacturing and service industries, including Government service.

RATING:

Absolute must for reading - expect managers to read.



TITLE: Out of the Crisis

AUTHOR: W. Edwards Deming

FIRST PUBLISHED DATE: 1982

LATEST REPRINT: 1988

20 WORD REVIEW:

Deming states, "Most of this book is involved with leadership. Nearly every page states a principle of good leadership of man and machine or shows an example of good or bad leadership."

OVERALL SYNOPSIS:

Deming's thesis is that post-war American business enjoyed "profits without honor." Corporations didn't have to care about quality because they were too busy churning out products to meet pent-up demand. In effect, America's industrial superiority was as much a matter of chance and circumstances as of any skill intrinsic to U.S. management.

The primary reason, he argues, is that management has never gotten around to understanding the difference between price and value. Rather than optimizing a management system around providing customer value through quality, American managers strive to maximize their profits by price. As Deming points out, that latter approach only works in a rapidly expanding economy, not in the competitive, comparatively low-growth global economy of today.

The book contains statistics, but it turns out that statistical quality control is less about how to measure than what to measure. Deming comes off as a person who wants to design management systems that amplify people rather than constrain them. The numbers are tools, not shackles.

Deming provides managers of both manufacturing and service organizations with questions to determine what it is that the managers are managing. He emphasizes that managers are managing "systems"--not just people--and that too often managers do a brilliant job of measuring and rewarding the wrong aspects of the system.

RATING:

Excellent TQM material - useful for managers in understanding the TQM philosophy.

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\06 Biographical Data as Predictors of Success in Military Aviation Training.

\09 Master's thesis.

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\27 This document contains summaries of fifteen of the well known books which underlie the Total Quality Management philosophy. Members of the DCASR St Louis staff offer comments and opinions on how the authors have presented the quality concept in today's business environment. Keywords: TQM (Total Quality Management), Quality concepts, Statistical process control. (sdw)

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